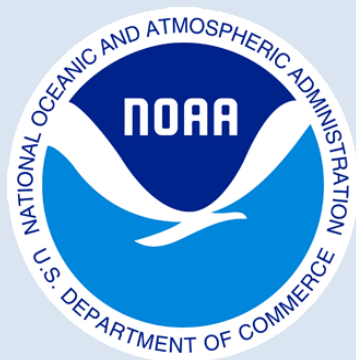


# NOAA Climate Science & Services

## Monthly Climate Update



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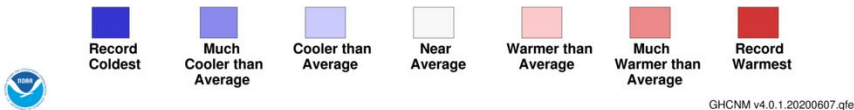
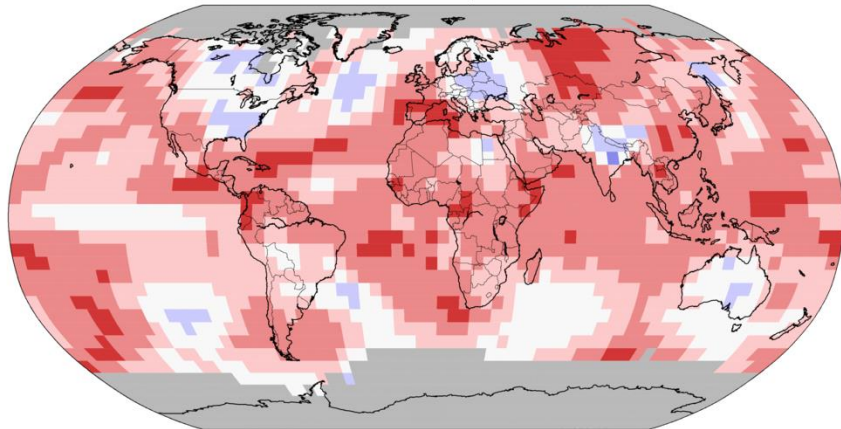
# Global Temperature

The global temperature record dates back to 1880 (141 years)

## Land & Ocean Temperature Percentiles May 2020

NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v5.0.0-20200608



May 2020

- **Global Land & Ocean:**  $+0.95^{\circ}\text{C}$  /  $+1.71^{\circ}\text{F}$ ; tied for warmest May on record (2016)
- **Global Land:**  $+1.39^{\circ}\text{C}$  /  $+2.50^{\circ}\text{F}$ ; warmest May on record
- **Global Ocean:**  $+0.79^{\circ}\text{C}$  /  $+1.42^{\circ}\text{F}$ ; 2nd warmest May on record, behind 2016

## March-May 2020

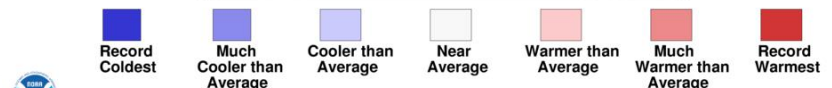
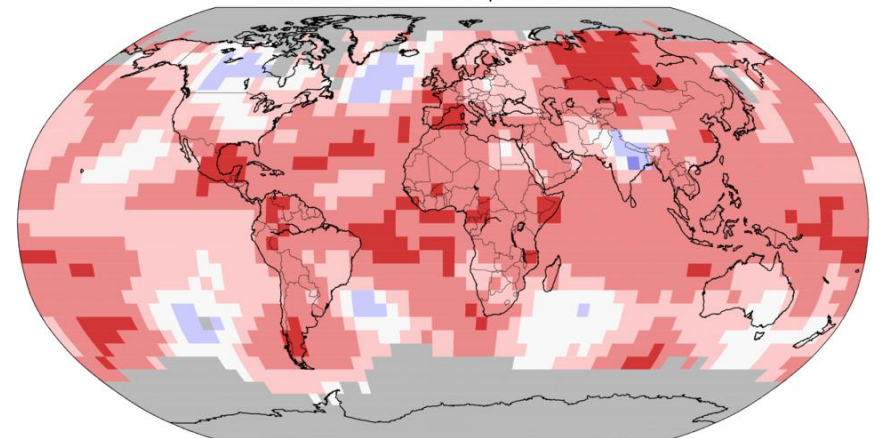
**2<sup>nd</sup> warmest Mar-May, behind 2016**

- **Global Land & Ocean:**  $+1.06^{\circ}\text{C}$  /  $+1.91^{\circ}\text{F}$
- **Global Land:**  $+1.74^{\circ}\text{C}$  /  $+3.13^{\circ}\text{F}$
- **Global Ocean:**  $+0.81^{\circ}\text{C}$  /  $+1.46^{\circ}\text{F}$

## Land & Ocean Temperature Percentiles Mar 2020–May 2020

NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v5.0.0-20200608



GHCNM v4.0.1.20200607.qle

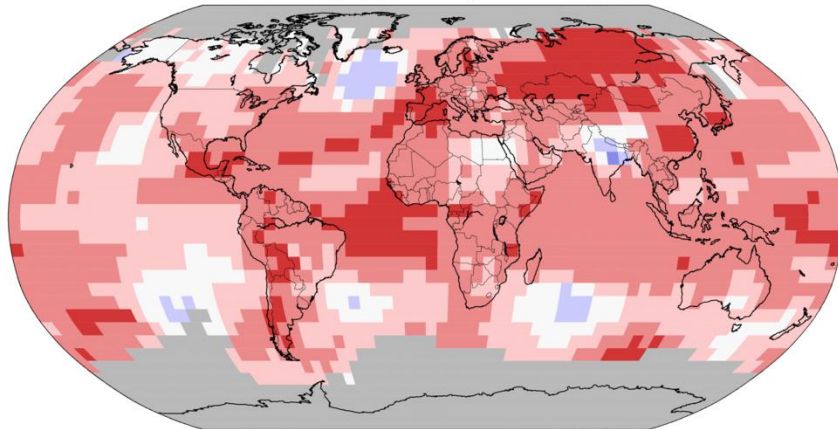
# Global Temperature

The global temperature record dates back to 1880 (141 years)

## Land & Ocean Temperature Percentiles Jan–May 2020

NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v5.0.0–20200608



## 2020 Probability Ranking Outlook

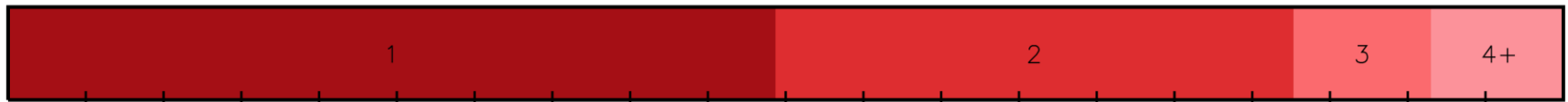
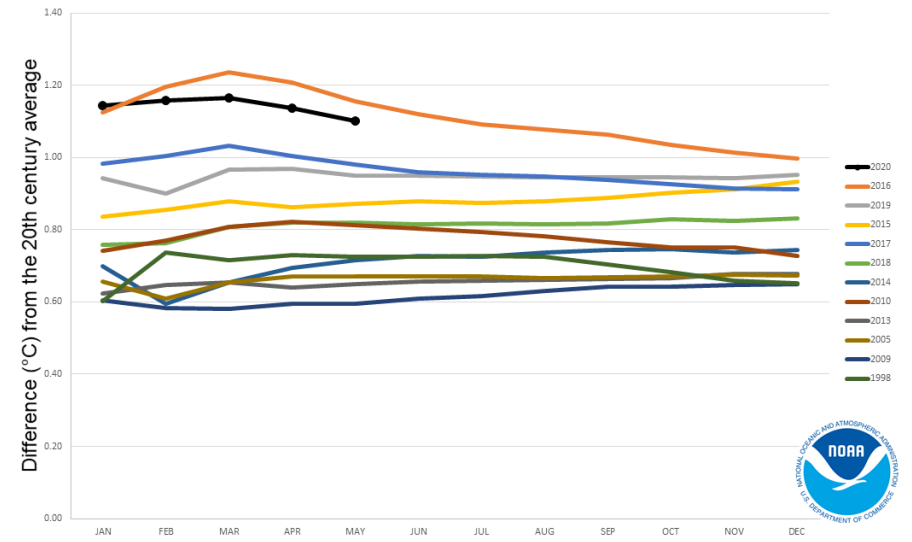
- Virtually certain: top 5 year
- 49.3% chance of warmest year

## 2<sup>nd</sup> warmest Jan-May on record, behind 2016

- **Global Land & Ocean:** +1.10°C / +1.98°F
- **Global Land:** +1.92°C / +3.46°F
- **Global Ocean:** +0.80°C / +1.44°F

## Year-to-date Global Temperatures

for 2020 and the ten warmest years on record



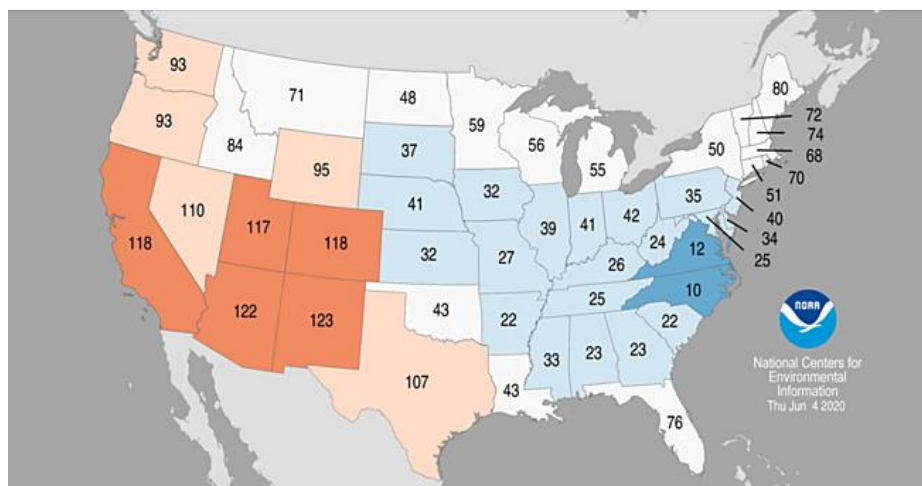
# Contiguous U.S. May 2020

**Temperature:** 60.8°F, +0.6°F, near average

**Precipitation:** 3.04", +0.13", near average

Temperature Percentiles May 2020

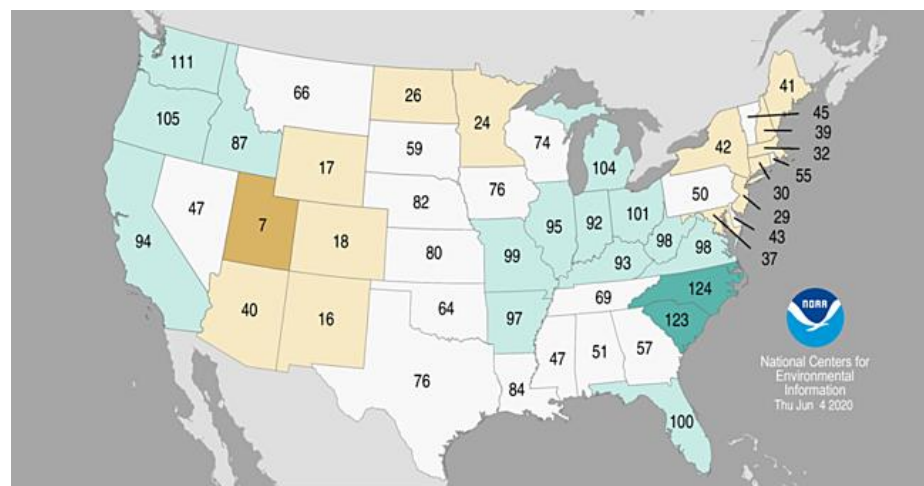
Period: 1895-2020 (126 years)



- Below-average temperatures from Plains to East Coast
- NC – coldest May since 2005, 10<sup>th</sup> coldest
- Above-average temperatures from PNW to Texas
- NM – 4<sup>th</sup> warmest, AZ – 5<sup>th</sup> warmest

Precipitation Percentiles May 2020

Period: 1895-2020 (126 years)



- 16 states had above-average May precipitation
- NC – 3<sup>rd</sup> wettest, SC – 4<sup>th</sup> wettest
- Drier-than-average conditions observed across portions of Southwest, Rockies, Northern Tier, and part of the Northeast
- UT – 7<sup>th</sup> driest May



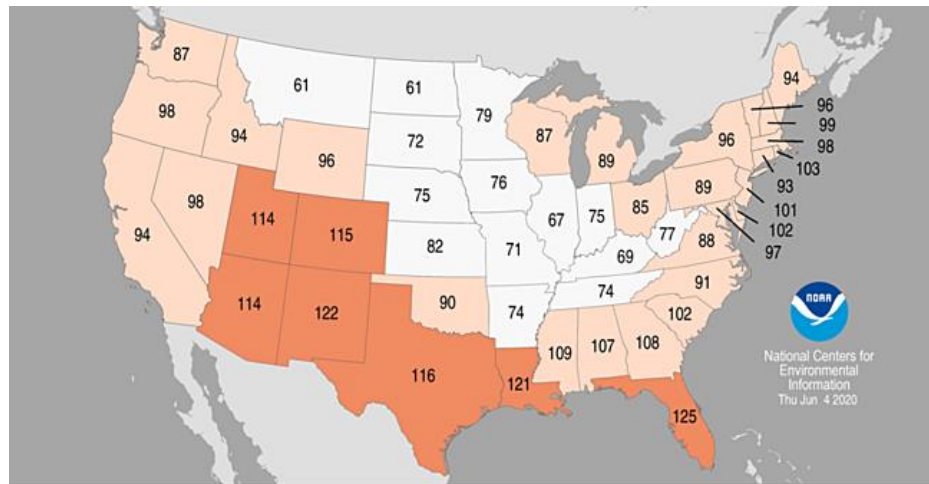
# Contiguous U.S. March-May 2020

**Temperature:** 52.6°F, +1.7°F, above average

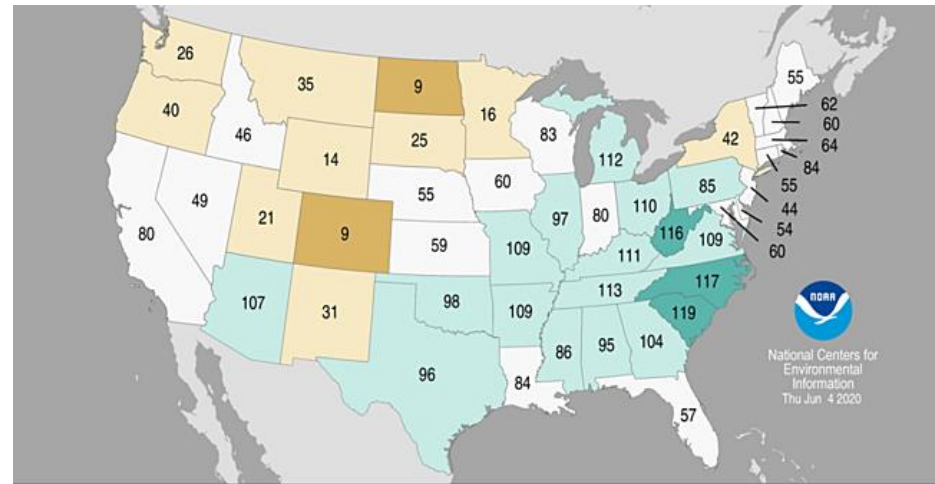
**Precipitation:** 8.40", +0.46", above average

Temperature Percentiles Mar-May 2020  
Period: 1895-2020 (126 years)

Precipitation Percentiles Mar-May 2020  
Period: 1895-2020 (126 years)



Record Coldest (1)  
Much Below Average  
Below Average  
Near Average  
Above Average  
Much Above Average  
Record Warmest (126)



Record Driest (1)  
Much Below Average  
Below Average  
Near Average  
Above Average  
Much Above Average  
Record Wettest (126)

- Above-average temperatures across West Coast to Deep South and Southeast to New England and Great Lakes.
- FL - 2<sup>nd</sup> warmest, NM - 5<sup>th</sup> warmest, LA - 6<sup>th</sup> warmest
- No below-average statewide temperatures for spring

- Above-average precipitation from TX to Great Lakes and into the Southeast
- SC - 8<sup>th</sup> wettest Mar-May
- Drier-than-average conditions observed across parts of PNW, Rockies, Northern Tier, and Northeast
- CO & ND - 9<sup>th</sup> driest Mar-May

# Contiguous U.S. January-May 2020

**Temperature:** 45.9°F, +2.6°F, ninth warmest January-May on record

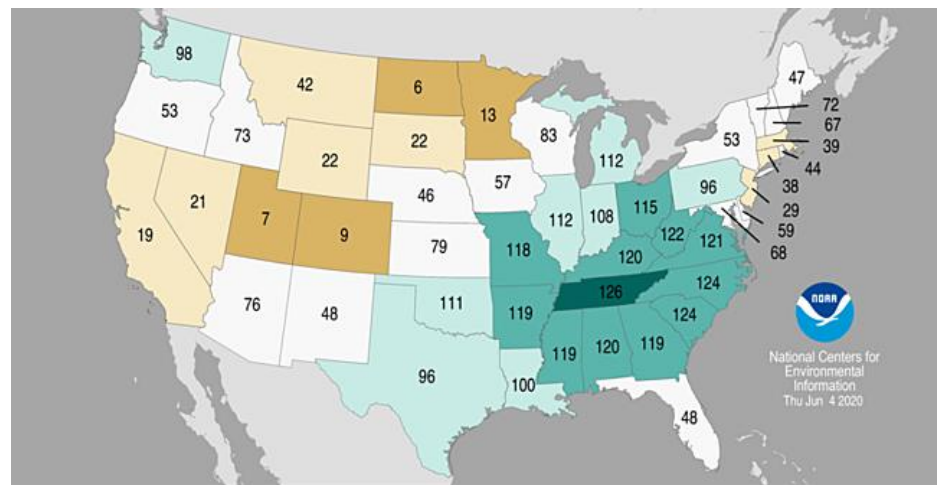
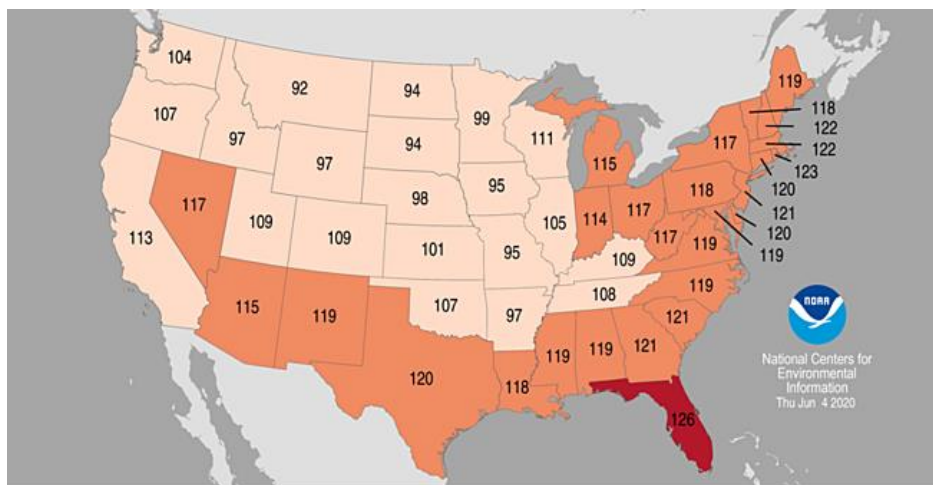
**Precipitation:** 13.60", +1.21", above average

Temperature Percentiles Jan-May 2020

Period: 1895-2020 (126 years)

Precipitation Percentiles Jan-May 2020

Period: 1895-2020 (126 years)



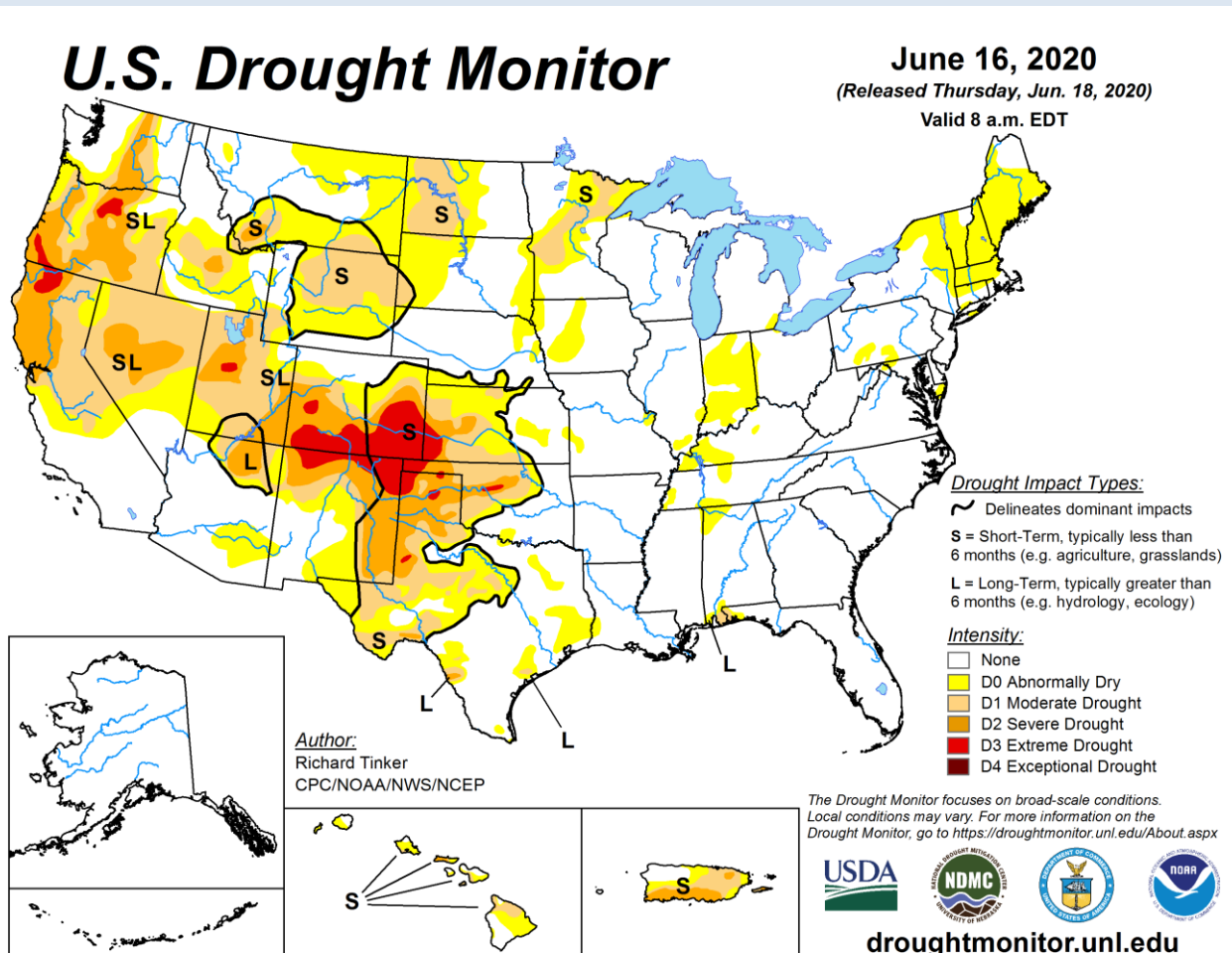
- Above-average to record-warm temperatures across contiguous U.S.
- FL – warmest YTD, Six add'l states among warmest six YTDs
- No state ranked average or below-average for Jan-May

- Above-average precipitation from TX to Great Lakes to East Coast
- TN – wettest YTD, SC & NC – 3<sup>rd</sup> wettest
- Drier-than-average conditions stretched from California to central Rockies and into Northern Tier
- ND – 6<sup>th</sup> driest, UT – 7<sup>th</sup> driest, CO – 9<sup>th</sup> driest

# Current U.S. Drought

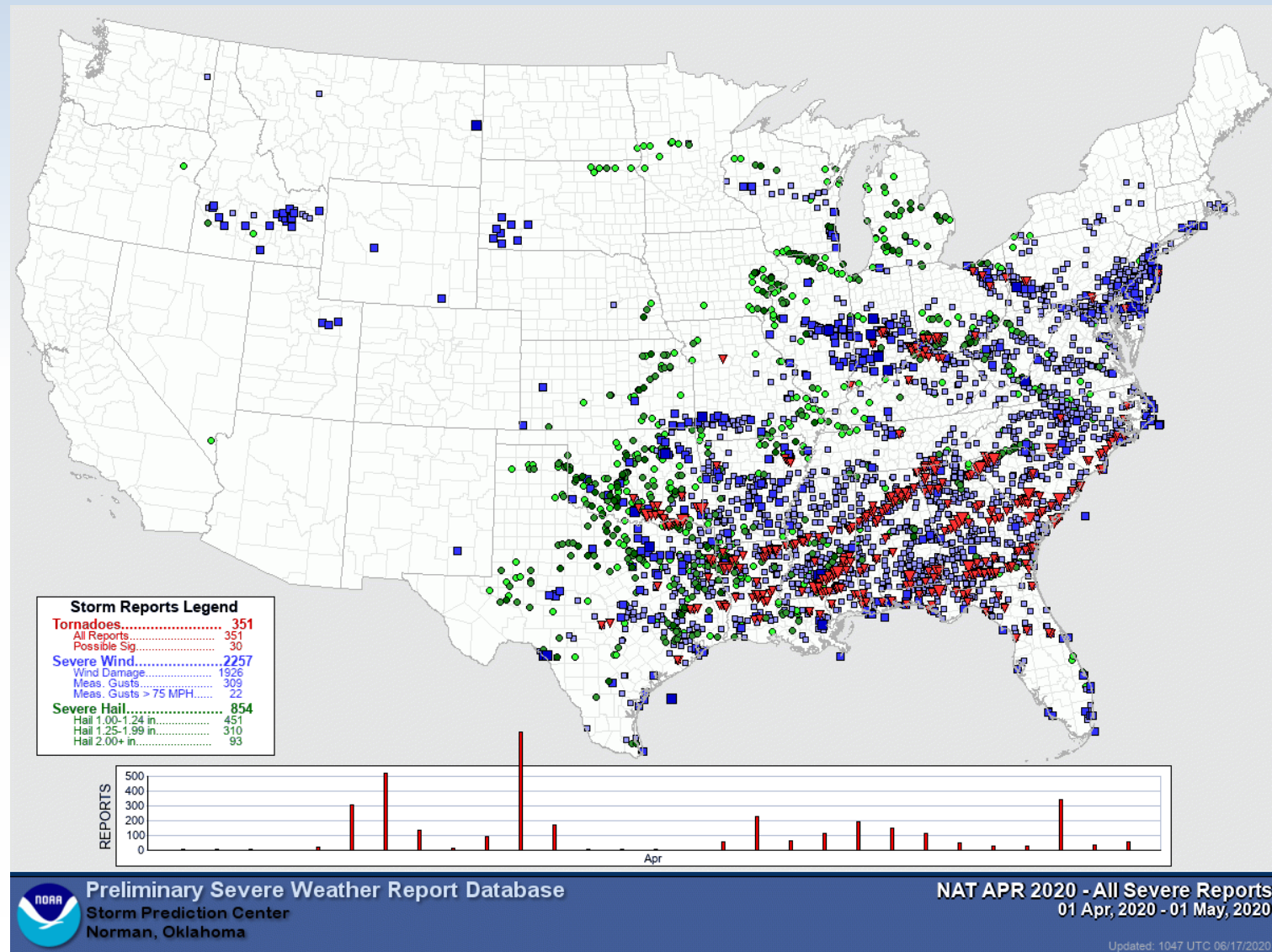
23.4% of Contiguous U.S. in Drought

(↑ nearly 5 percentage points since late May)



- Improvement: Florida
- Degradation: Parts of Northern Rockies and Plains, western Great Lakes, Great Basin to the High Plains, and into New Mexico and Texas
- Outside CONUS: Drought expanded and intensified across portions of Hawaii and Puerto Rico

# April 2020 By The (SPC) Numbers





# April 2020 By The (SPC) Numbers

- 78 SPC Watches
  - **38 Severe Thunderstorm**
  - **40 Tornado (2 were PDS)**
- 227 Mesoscale Discussions
- 29 Days with Severe Risk
  - 05 April had no Severe Risk
- 40 Fatalities
  - Most in month since 41 in May 2013
  - 04/12-13: 32
  - 04/19-20: 2
  - 04/22-23: 6
- 14 Killer Tornadoes
  - 5th Most in NOAA Record
  - Most since 43 occurred in April 2011

## Outlook Counts

Marginal Risk	29
Slight Risk	20
Enhanced Risk	12
Moderate Risk	3
High Risk	0

## April Tornado Counts

Rank	Year	Prelim Count	Actual Count
1.	2011	1085*	757
<b>2.</b>	<b>2020</b>	<b>351*</b>	<b>--</b>
3.	2006	322*	244
4.	2019	271*	276
5.	2009	271*	226

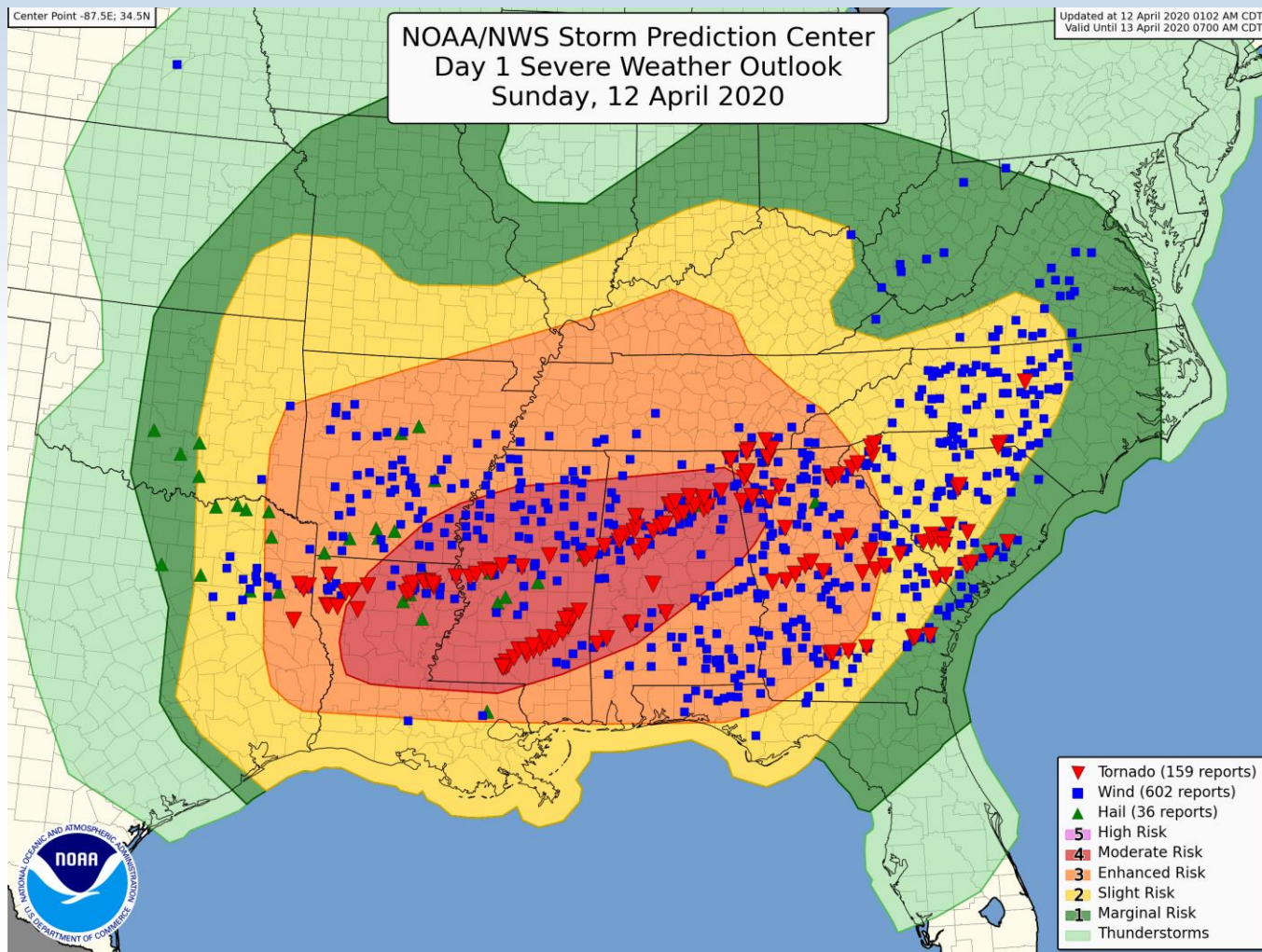
# April 2020 By The (SPC) Numbers

## 12-13 April 2020 Easter Sunday

~114 Confirmed Tornadoes  
32 Tornado Fatalities  
MS: 12; SC: 9; GA: 8; TN: 3

- Most fatalities on a day (32) since 02 March 2012 (41)
- Most Violent Tornadoes (3) on a day since 16 June 2014 (4)
- Only 4th “Convective Day” with over 100 tornadoes
  - 4/27/2011: 173
  - 4/3/1974: 143
  - **4/12/2020: 114\***
  - 4/26/2011: 110

Dates shown above are “Convective Days” running from 8AM EDT to 8AM EDT the following day

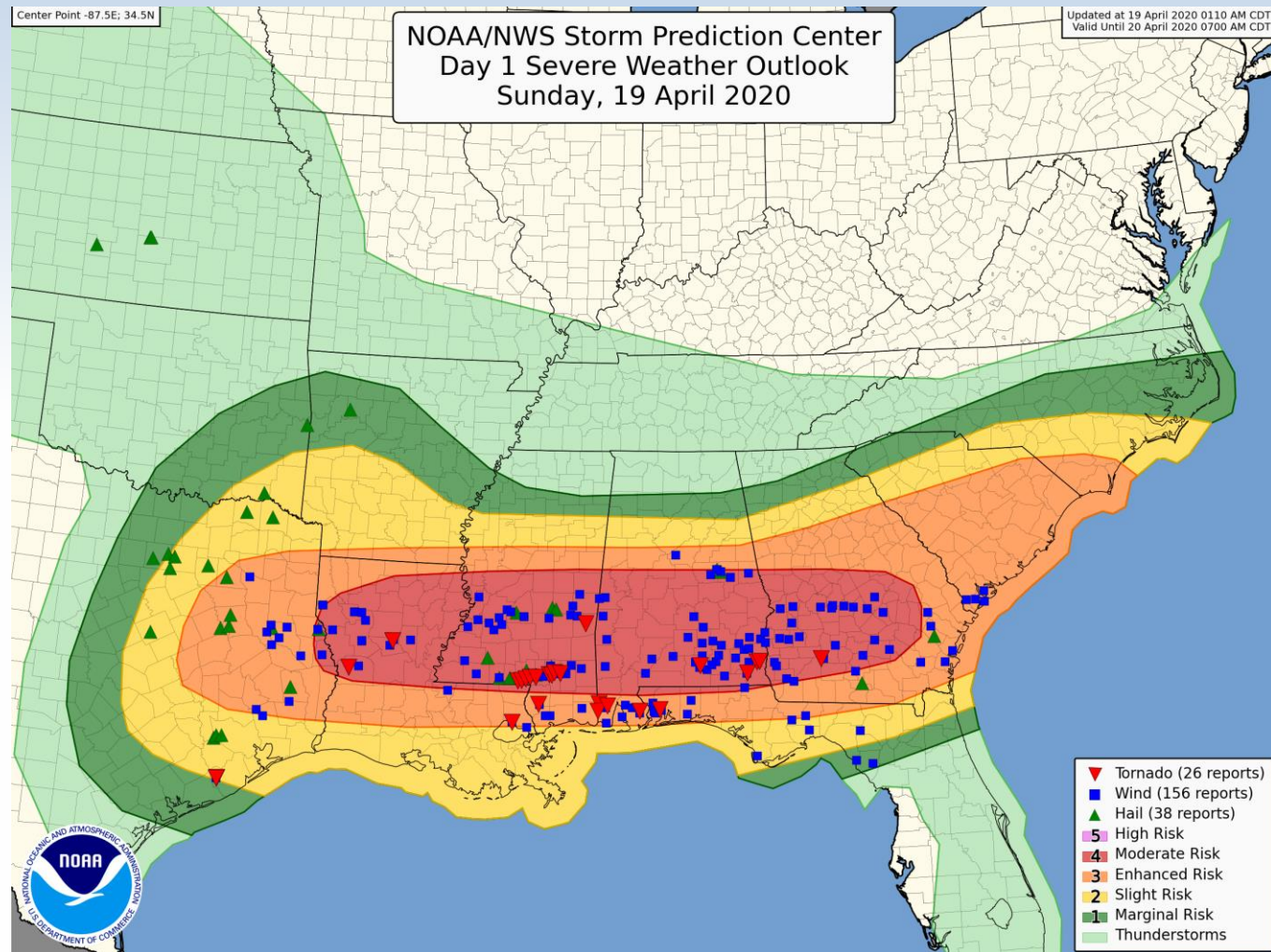


# April 2020 By The (SPC) Numbers

19-20 April 2020

26 Preliminary  
Tornadoes

2 Tornado  
Fatalities  
MS: 1; AL: 1



Dates shown above are “Convective Days” running from 8AM EDT to 8AM EDT the following day



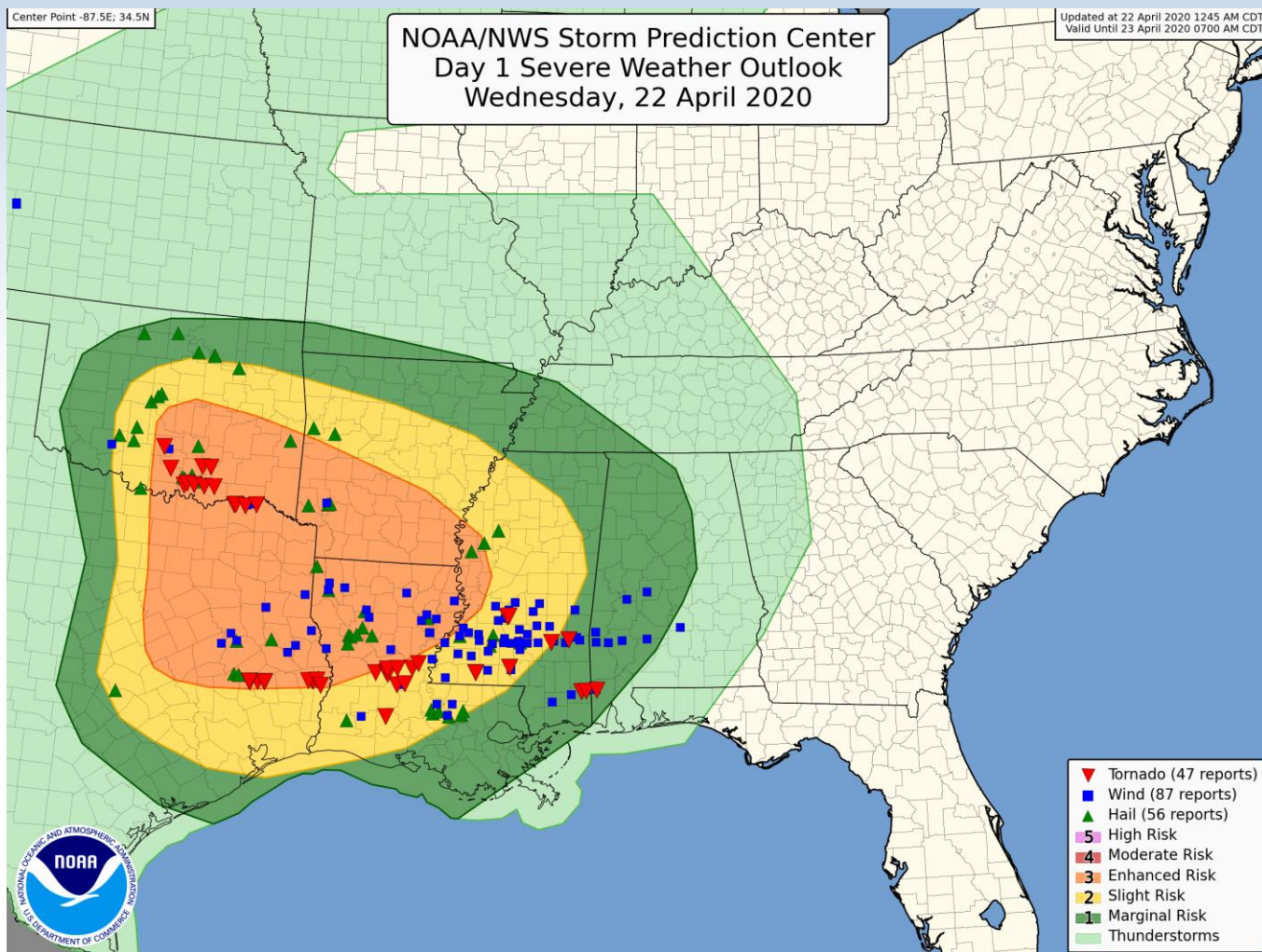
# April 2020 By The (SPC) Numbers

22-23 April 2020

47 Preliminary  
Tornadoes

6 Tornado Fatalities

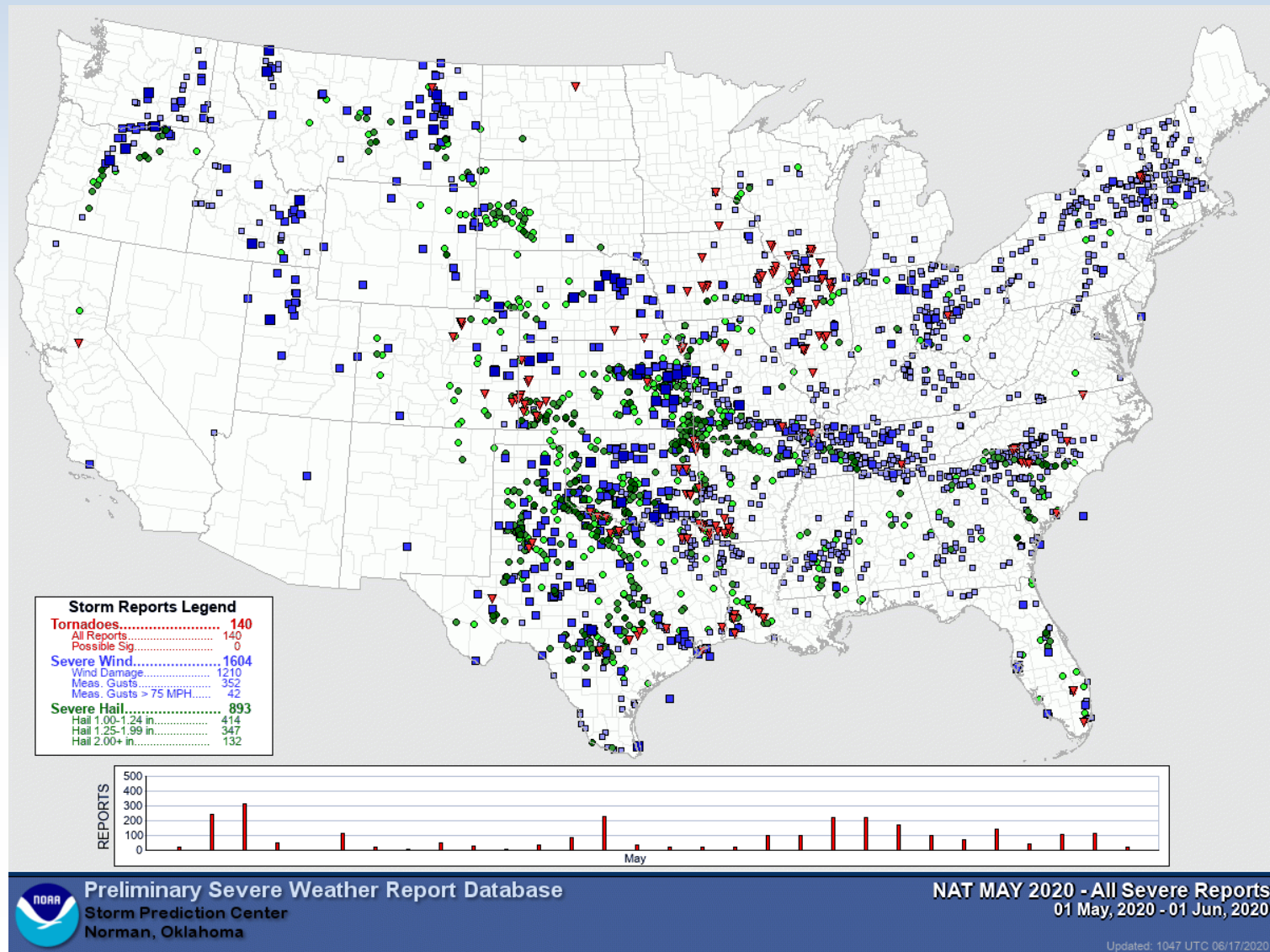
TX: 3; OK: 2; LA: 1



Dates shown above are “Convective Days” running from 8AM EDT to 8AM EDT the following day



# May 2020 By The (SPC) Numbers



# May 2020 By The (SPC) Numbers

- 82 SPC Watches
  - 72 Severe Thunderstorm
  - 10 Tornado
- 270 Mesoscale Discussions
- 30 Days with Severe Risk
  - 06 May had no Severe Risk
- 1 Fatality
  - Fewest May fatalities since 2018 (1)
  - 05/17: 1 (LA)
- 1 Killer Tornado
  - Fewest since 1 in 2018
  - 2012 was last time with 0 killer tornadoes

## Outlook Counts

Marginal Risk	30
Slight Risk	27
Enhanced Risk	10
Moderate Risk	0
High Risk	0

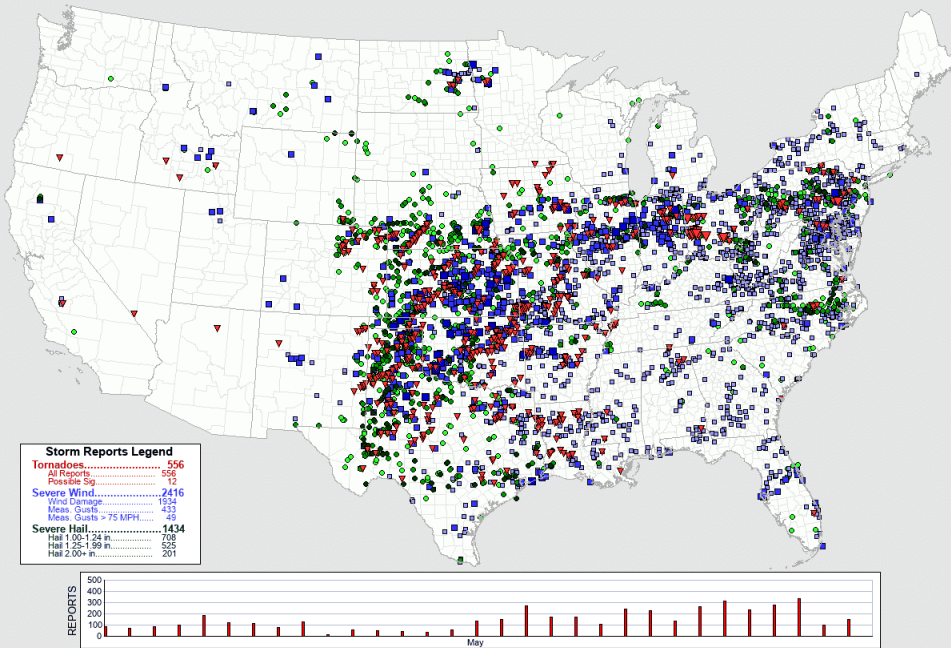
## May Tornado Counts

Rank	Year	Prelim Count	Actual Count
1.	2003	---	542
2.	2019	556*	513
3.	2004	---	509
4.	2008	597*	460
5.	1995	---	394

May 2020 only had 140 preliminary tornado reports



# May 2019 vs May 2020

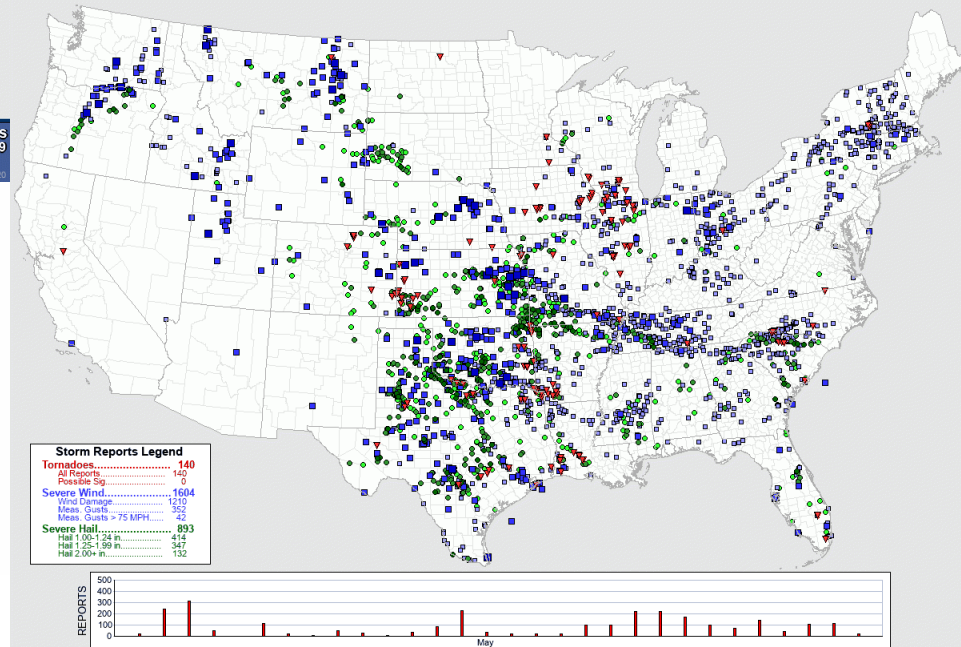


**Preliminary Severe Weather Report Database**  
Storm Prediction Center  
Norman, Oklahoma

**NAT MAY 2019 - All Severe Reports**  
01 May, 2019 - 01 Jun, 2019

Updated: 1802 UTC 05/13/2020

## 2019

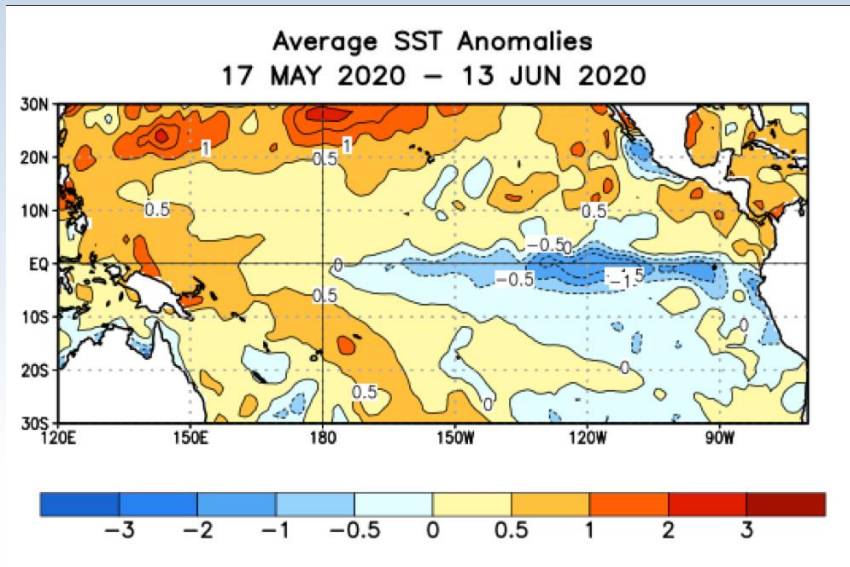


**Preliminary Severe Weather Report Database**  
Storm Prediction Center  
Norman, Oklahoma

**NAT MAY 2020 - All Severe Reports**  
01 May, 2020 - 01 Jun, 2020

Updated: 1047 UTC 05/17/2020

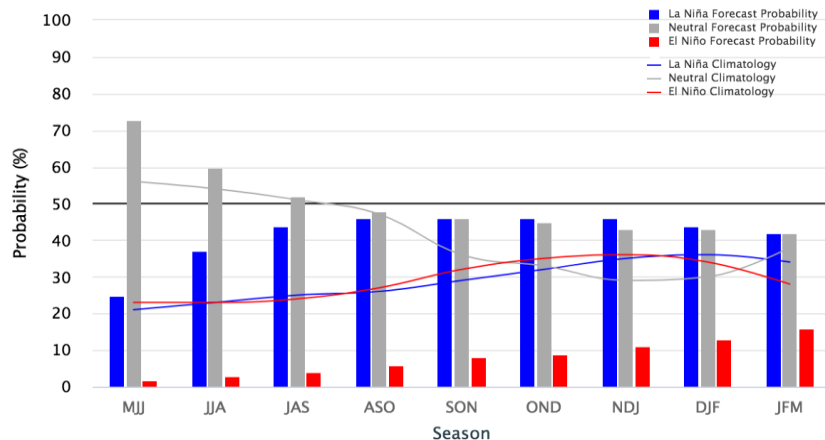
# Sea Surface Temperatures & ENSO



- Sea surface temperatures (SSTs)
  - Near to above normal SSTs persist across the western equatorial Pacific, while below normal SSTs have emerged east of the Date Line
  - The oceanic and atmospheric observations currently indicate ENSO neutral conditions persist
  - Positive SST anomalies are present in the Gulf of Mexico and Caribbean Sea

Early-June 2020 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly  
Neutral ENSO:  $-0.5^{\circ}\text{C}$  to  $0.5^{\circ}\text{C}$



- ENSO forecast

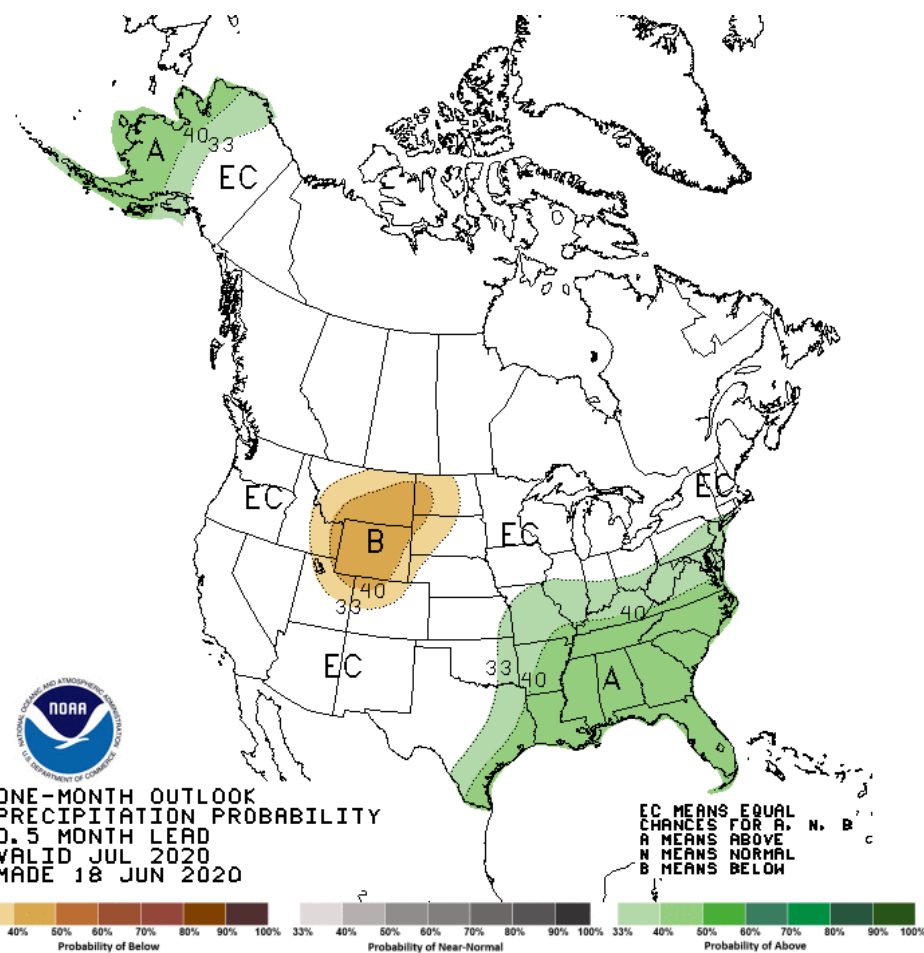
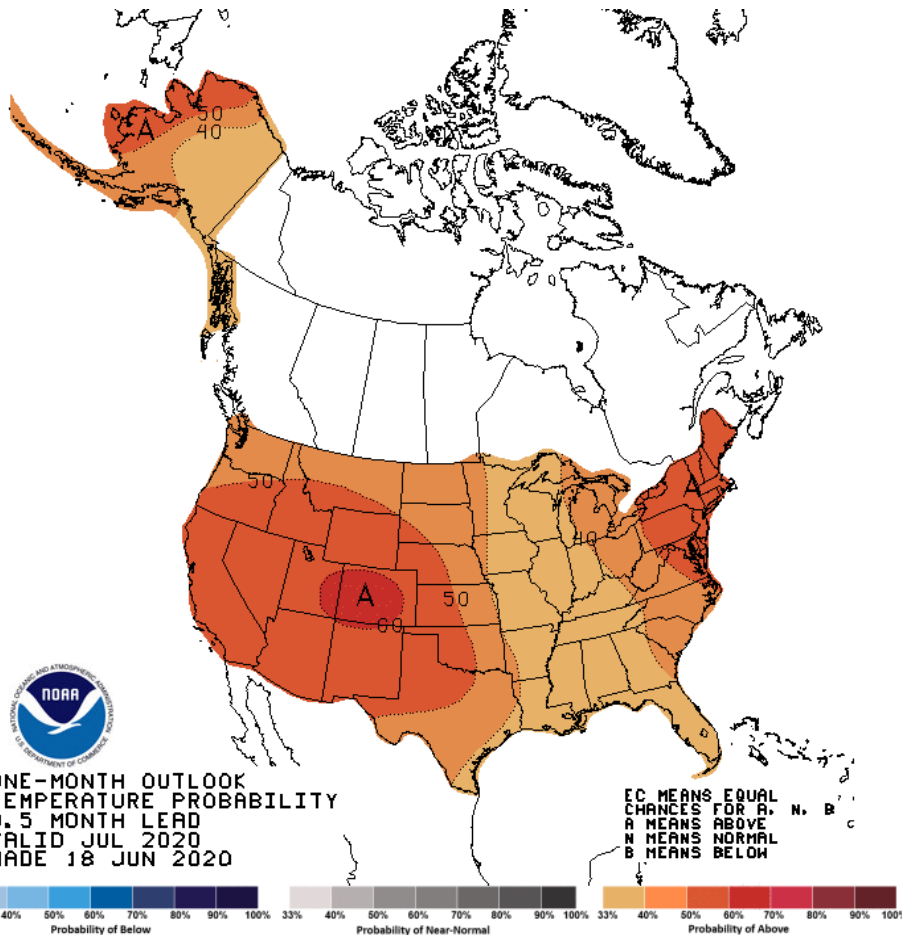
- ENSO neutral is most likely to persist through this summer (60 percent chance)
- About equal chances of a La Niña or ENSO neutral conditions in autumn and winter (40-50 percent chance)
- Little chance of an El Niño this year



# Monthly Forecast (July)

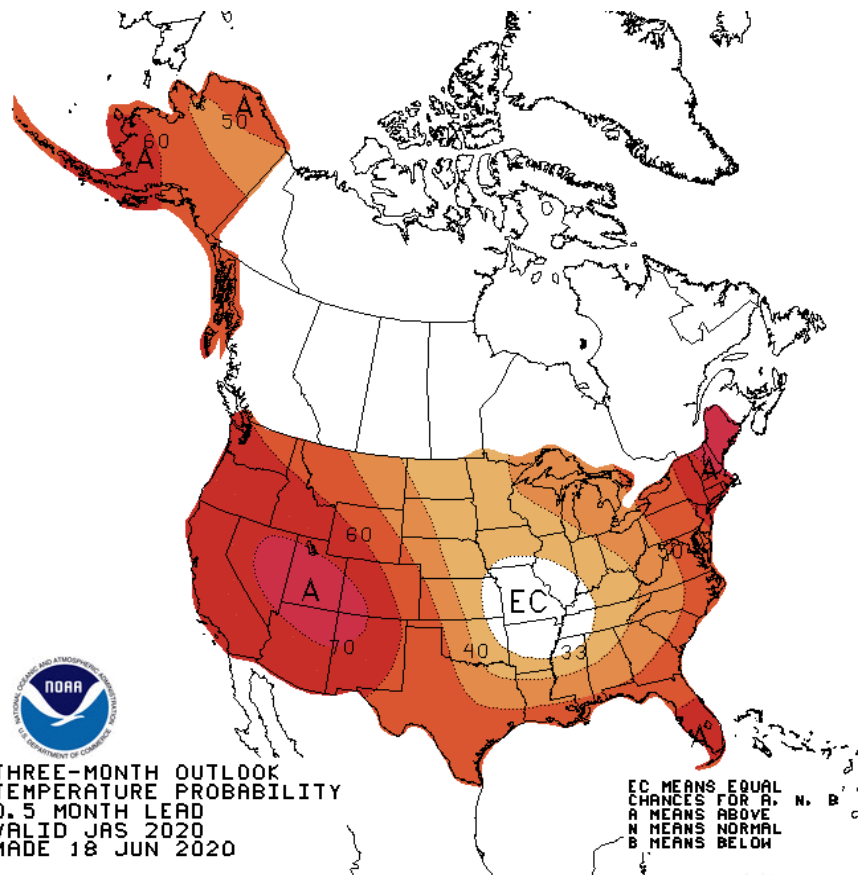
## July Average Temperature Probability

## July Total Precipitation Probability

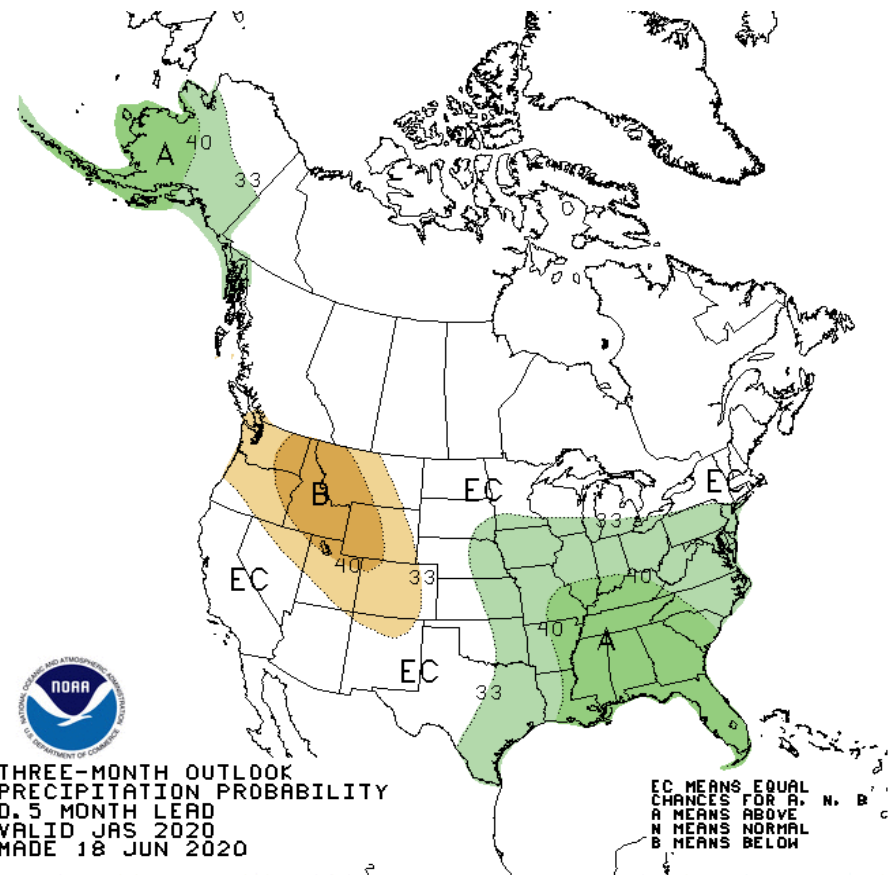


# Seasonal Forecast (Jul.-Aug.-Sep.)

## Jul-Aug-Sep Average Temperature Probability



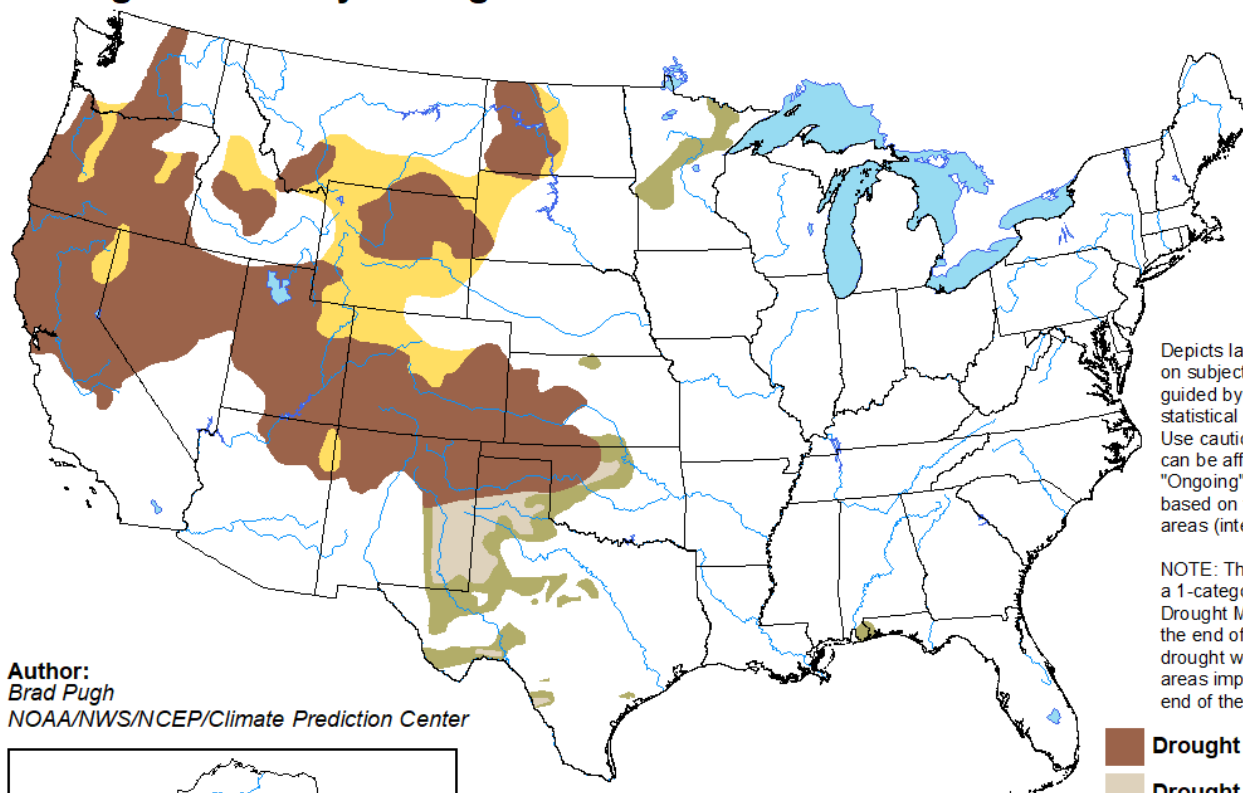
## Jul-Aug-Sep Total Precipitation Probability



# U.S. Drought Outlook

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

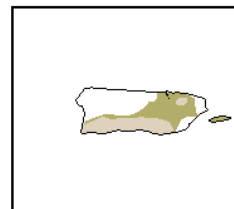
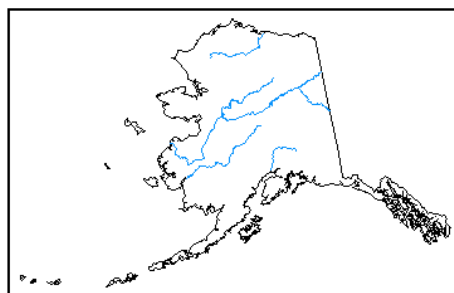
Valid for June 18 - September 30, 2020  
Released June 18







Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:  
Brad Pugh  
NOAA/NWS/NCEP/Climate Prediction Center



-  Drought persists
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely



<http://go.usa.gov/3eZ73>

# For More Information



## TODAY'S PRESENTATION:

- <http://www.ncdc.noaa.gov/sotc/briefings>

## NOAA's National Centers for Environmental Information:

[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

- Monthly climate reports (U.S. & Global): [www.ncdc.noaa.gov/sotc/](http://www.ncdc.noaa.gov/sotc/)
- Dates for upcoming reports: <http://www.ncdc.noaa.gov/monitoring-references/dyk/monthly-releases>

NOAA's Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

NOAA/NWS Storm Prediction Center: [www.spc.noaa.gov](http://www.spc.noaa.gov)

U.S. Drought Monitor: [www.drought.gov](http://www.drought.gov)

Climate Portal: [www.climate.gov](http://www.climate.gov)

NOAA Media Contacts: [john.jones-bateman@noaa.gov](mailto:john.jones-bateman@noaa.gov), 301-713-9604 (NOAA/NESDIS PAO)